Architectural Thesis

Designs

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A DEPARTMENT STORE

...BY...

WALTER SAMUEL CHURCH

THESIS

FOR THE DEGREE OF BACHELOR OF SCIENCE

IN ARCHITECTURE

IN THE

College of Engineering

OF THE

UNIVERSITY OF ILLINOIS

PRESENTED JUNE, 1900

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THIS IS TO CERTIFY THAT THE THESIS PREPARED UNDER MY SUPERVISION BY

Walter Samuel Church

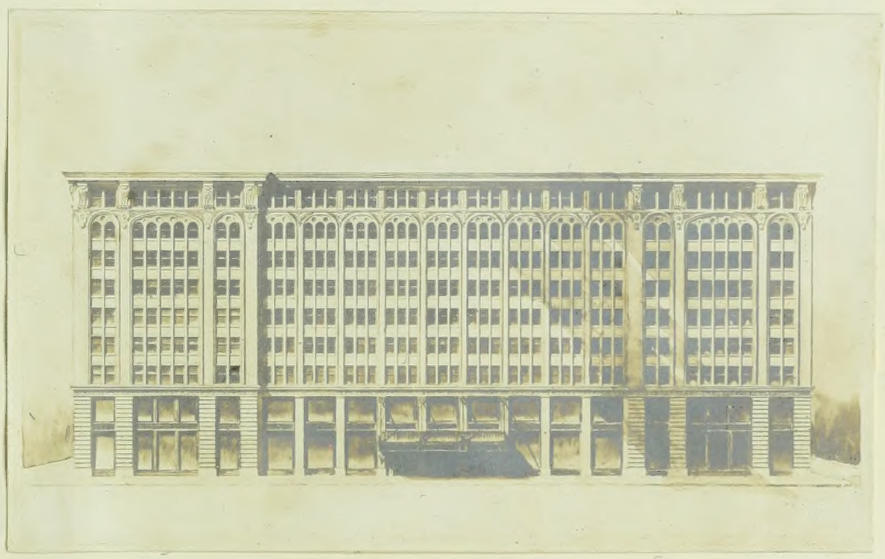
ENTITLED A Department Store

IS APPROVED BY ME AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE DEGREE

OF Bachelor of Science in Architecture.

N. C. Ricker.

HEAD OF DEPARTMENT OF Architecture.



-FRONT ELEVATION-

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A Department Store.

The design of this building is represented by the following drawings:

One Elevation at 3/32" scale
First Floor Plan at 1/16" scale
Typical Floor Plan at 1/16" scale
Section Through Court Light Court at 1/8" scale

The building is 144 feet in height from the sidewalk to the top of the cornice and is divided into nine stories. It is of steel skeleton construction with curtain walls.

Elevation:

This is the principal Elevation of the building and is 250 feet long. It is composed of 17 column bays, two of the four in the end pavilions being divided into three bays in the exterior wall. The wall is carried by two small columns in the central piers, through the upper part of the building, resting on a built up girder

at the second story and from there the load is carried to the footings by means of two other columns.

The first two stories of the building are of stone with rusticated masonry in the end pavilions. Above these two stories is brick with all decorations in terra-cotta. The cornice separating the second and third floors is of terra-cotta

There is a canopy extending to the curb forming a carriage entrance. The canopy is of bronzed iron and is supported by four large chains of the same material.

First Floor Plan.

The building is 330 x 275 feet giving 17 bays one way and 13 the other. The column spacing for the first 4 bays is 21 feet and for the remainder 20 feet. The spacing of the columns was mainly determined by the Elevation.

There are 24 passenger elevators besides 2 freight Elevators. The passenger

elevators are grouped about the entrances and also on the interior or back wall of the building. Where the elevators come next to a staircase they are separated from it by means of a fire-proof wall.

The main entrance vestibule consists of three entrance bays as shown. Opening directly off from this are six entrances. By stationing men in uniform in the vestibule patrons may be directed to the portion of the building in which they will find the articles desired, and they can take the elevator directly from the vestibule. This also offers advantages in the exit. Just inside the entrance are four elevators, two on each side. Next to these are the staircases leading to the top of the building.

The entrances on the sides of the building are one bay in width and one half bay deep, with elevators and staircases on each side.

From the Main entrance three aisles lead uninterruptedly to the centre of the building, where a covered light court

100 x 100 feet runs the entire height of the building. On the first floor this court contains the grand staircase composed of four flights. There is also a large fountain 25 x 25 feet. The stair case continues in a double flight from the second floor, located just to the rear of the light court. This makes a total of eight flights.

The rear of the court and separated from the remainder of the building is a shipping room 41 x 151 feet. Two freight elevators open into this. The shipping platform is not separated from the shipping room. Rolling shutters are placed 2'-6" from the edge. This method avoids waste space.

Typical Floor Plan:

It will be noted that the six elevators opening off the main vestibule open towards each other on opposite sides of a display space on each floor, which is in this way brought conspicuously before persons leaving the elevators.

Section :

The story heights are as follows:

Basement — 12'-0" in the clear
First Floor — 22'-0" " " "
Second Floor — 16'-0" " " "
Third to Eighth — 12'-0" " " "
Ninth — 14'-0" " " "

One of the most interesting and most difficult points in this drawing is the carrying of the roof, and treatment of same. The span is 120 feet but as there is only the dead load of the glass and snow besides the truss, the latter is built very light, and consists of four angles latticed together so as to give a depth of six feet. This truss is carried the entire span but the first 20 feet on each side forms a large core, of glass, with the ninth story openings arching into it. This gives a flat glass roof over the central square carried on the upper chord of the truss and having a 20 foot span at the sides. The outer glass roof is formed thus. The skylight members being glazed and so arranged as to cap over the trusses. The valleys are carried on the purlins and

have a pitch of 1/4 inch in one foot. The ceiling of the top story is sheathed, so that the pitch of the roof does not affect this. The roof and floors are made of hollow tile arches supported on I beams.

Below the skylight there is a rich story treated in metal, after which an order is carried down to the first story base.

The aisles on the first floor are so arranged that from the interior one is able to look through and see the court. Although there is considerable objection to the use of the court on account of difficulties in fire proofing, its effect adds much to such a building, because it allows a display at each of the several stories and gives that appearance of brightness which is needed in such a place. It also allows the use of lower story lights without a limited effect. It seems reasonable to suppose that some method of isolation, this gives the remainder of the building in case of fire, without appearing unsightly may be

invented in the future.

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